FIBERS SITE GROUP

October 10, 2017

Via Email Electronic Copy

Adalberto Bosque, PhD, MBA, REM, CEA
Response and Remediation Branch
U.S Environmental Protection Agency
City View Plaza II - Suite 7000
48 RD, 165 Km. 1.2
Guaynabo, PR 00968-8069

Subject: RD/RA Monthly Report – September 2017
Fibers Public Supply Wells Site
Guayama, Puerto Rico

Dear Mr. Bosque:

On behalf of the Fibers Public Supply Wells Site Settling Defendants, we are submitting the attached RD/RA Monthly Report prepared pursuant to the Consent Decree (Civil Action No. 92-2486) in the matter of *Unites States v. Anaquest Caribe, Inc. et al*, Section IX, Paragraph 30, Reporting Requirements.

Please feel free to contact Mr. James Kirschner of ARCADIS at (602) 797-4519 or me at (724) 544-4874 if you have any questions or comments regarding this submittal.

Sincerely,

Joe Biss, CHMM
Fibers Site Group Project Coordinator
EHS Support LLC

Copies:

Chief, New York/Caribbean Superfund Branch, Attn. Mel Hauptman- via email only
Ms. Margo Ludmer, Assistant Regional Counsel – via email only
Chief, Environmental Enforcement Division, U.S. Department of Justice (DOJ #90-11-2-768)
Amarilis Rodriguez Mendez, State Remedial Project Manager, Puerto Rico Environmental Quality Board - via email only
Ms. Katherine Mishkin, Hydrogeologist, USEPA Superfund Technical Support Section – via email only
Ms. Enid Diaz, Departmento de Recursos Naturales y Ambientales
Mr. Jorge Morales, PRIDCO - via email only
Mr. Joel Melendez Rodriguez, PRIDCO - via email only
Ms. Ana Palou Balsa, PRIDCO – via email only
Mr. Dan Vineyard, Jackson Walker- via email only
James Kirschner, Arcadis - via email only

RD/RA Monthly Report – September 2017
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

(a) Description of actions which have been taken toward achieving compliance with this Decree.

Fibers Air Stripping System

The Fibers groundwater extraction and treatment system (GWETS) was operational for approximately 12.5% of the time during September 2017. The GWETS had one shut down due to maintenance on September 4, 2017 and restarted the same day. On September 5, 2017 the GWETS was shut down in preparation for Hurricane Irma. On September 8, 2017, the GWETS power was reestablished; however, an apparent equipment electrical short occurred. Replacement components related to the damaged voltage regulator have been ordered and were scheduled for replacement in early October. On September 20, 2017, Hurricane Maria made landfall in Puerto Rico affecting the electrical and water utilities on most of the island including the municipality of Guayama. Currently, the GWETS is without power and water and no anticipated timeframe for power has been suggested as repairs to the island's electrical grid continue. The GWETS repairs cannot be scheduled until reliable power has been established to that area of the island.

A summary of the daily treatment system operating records is presented in Table 1. The GWETS average flow rates are depicted on Figure 1. The GWETS operated at an average flow rate of 38 gallons per minute (gpm) and treated approximately 1.65 million gallons of water. To date (since May 1999), approximately 3.15 billion gallons of water have been treated at the Fibers Site. The total volume of water treated to date correlates with the treatment system influent flow meter totalizer reading.

(b) Summary of all sampling results and tests, and all other data received or generated by Settling Defendants.

Arcadis U.S., Inc. (Arcadis) collected split groundwater influent and effluent samples on September 1, 2017. The samples were submitted and analyzed by Pace Analytical Services, Inc. (Pace) in St. Rose, Louisiana and Environmental Quality Laboratories, Inc. (EQLAB) in Bayamon, Puerto Rico. The EQLAB laboratory analytical results were not received in September 2017; the results will be provided in the RD/RA Monthly Report-October 2017. A summary of the September 1, 2017 GWETS Pace Laboratory Analytical Results is provided in Table 2. A summary of GWETS influent groundwater concentrations of tetrachloroethene (PCE) and total haloethers, as reported by Pace, is depicted on Figures 2 and 3, respectively.

Arcadis performed a data quality assessment (validation) of the laboratory analytical results reported by Pace. Results are summarized in the Data Review Report #28375R and provided as Attachment 1. A copy of the chain of custody and annotated sample analysis data sheets are provided as an attachment to the Data Review Report. A copy of the complete Pace Laboratory Analytical Report #2060521 is provided as Attachment 2.

A copy of the GWETS Sampling and Monitoring Field Form, documenting sample collection information, individual flow rates at the three groundwater extraction wells and treatment system parameters is provided as Attachment 3.

(c) List of all work plans, plans and other deliverables completed and submitted.

The Fibers Site Group submitted an *Evaluation of Four Treated Groundwater Discharge Alternatives* to the United States Environmental Protection Agency (USEPA) on September 7, 2017.

The Fibers Site Group submitted in accordance with Section XIX (Force Majeure) of the Consent Decree a notification letter to the USEPA on September 22, 2017 regarding the temporary shutdown of the GWETS due to effects of Hurricanes Irma and Maria.

(d) Description of all actions, including, but not limited to, data collection and implementation of work plans, which are scheduled for the next six weeks.

A summary of results from the second phase of a subsurface soil investigation on Wyeth LLC leased portion of the Site is anticipated to be submitted to the USEPA within the next six weeks.

(e) Information regarding the percentage completion, unresolved delays encountered or anticipated.

Supplemental Subsurface Soil Investigations – In progress
Construction Activities – 100% complete.
System Start-Up – 100% complete.
Start-Up Performance Monitoring – 100% complete.
Long-Term Operation & Maintenance Period – In progress.
As stated above, unresolved delays in restarting the GWETS are anticipated to continue until such time as electrical power is restored and needed parts are able to be shipped to the Site.

(f) List of any modification to work plans or other schedules the Settling Defendants have proposed.

None.

(g) Description of activities undertaken in support of the Community Relations Plan.

No support activities have been requested for the next planning period.

(h) Actions undertaken to address outside parties concerns.

No concerns from outside parties were encountered during this reporting period.

Tables

Table 1
Summary of Daily Treatment System Operating Records - September 2017
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

Recording Date	Influent Flow (gpm) [1]	Effluent Flow (gpm) [2]	RW-2 (gpm) [3]	RW-4 (gpm) [4]	RW-5 (gpm) [5]	pH [6]	Comments
9/1/2017	306	374	95	145	70	8.4	
9/2/2017	306	374	95	145	70	8.4	
9/3/2017	306	374	95	145	70	8.4	
9/4/2017	229	282	72	109	53	8.0	GWETS maintenance; prepare for Hurricane Irma.
9/5/2017	0	0	0	0	0	NR	GWETS manually shut down to prepare for Hurricane Irma.
9/6/2017	0	0	0	0	0	NR	GWETS shut down.
9/7/2017	0	0	0	0	0	NR	GWETS shut down.
9/8/2017	0	0	0	0	0	NR	Site visit; GWETS electrical short, remains shut down.
9/9/2017	0	0	0	0	0	NR	GWETS shut down.
9/10/2017	0	0	0	0	0	NR	GWETS shut down.
9/11/2017	0	0	0	0	0	NR	GWETS shut down.
9/12/2017	0	0	0	0	0	NR	GWETS shut down.
9/13/2017	0	0	0	0	0	NR	GWETS shut down.
9/14/2017	0	0	0	0	0	NR	GWETS shut down.
9/15/2017	0	0	0	0	0	NR	GWETS shut down.
9/16/2017	0	0	0	0	0	NR	GWETS shut down.
9/17/2017	0	0	0	0	0	NR	GWETS shut down.
9/18/2017	0	0	0	0	0	NR	GWETS shut down; prepare for Hurricane Maria.
9/19/2017	0	0	0	0	0	NR	GWETS shut down; prepare for Hurricane Maria.
9/20/2017	0	0	0	0	0	NR	GWETS shut down; regional power loss.
9/21/2017	0	0	0	0	0	NR	GWETS shut down; regional power loss.
9/22/2017	0	0	0	0	0	NR	GWETS shut down; regional power loss.
9/23/2017	0	0	0	0	0	NR	GWETS shut down; regional power loss.
9/24/2017	0	0	0	0	0	NR	GWETS shut down; regional power loss.
9/25/2017	0	0	0	0	0	NR	GWETS shut down; regional power loss.
9/26/2017	0	0	0	0	0	NR	GWETS shut down; regional power loss.
9/27/2017	0	0	0	0	0	NR	GWETS shut down; regional power loss.
9/28/2017	0	0	0	0	0	NR	GWETS shut down; regional power loss.
9/29/2017	0	0	0	0	0	NR	GWETS shut down; regional power loss.
9/30/2017	0	0	0	0	0	NR	GWETS shut down; regional power loss.
Monthly Average	38	47	12	18	9	8.3	

Table 1
Summary of Daily Treatment System Operating Records - September 2017
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

Notes:

Flow rates are 24-hour daily average.

gpm = gallons per minute.

[1] = Recorded from instrument FIT-101.

[2] = Recorded from instrument FIT-301.

[3] = Recorded from instrument RW2 FIT.

[4] = Recorded from instrument RW4 FIT.

[5] = Recorded from instrument RW5 FIT.

[6] = Recorded from instrument pHIT-201A.

NR = no reading; GWETS shut down.

Table 2
Summary of Treatment System Laboratory Analytical Results
September 2017
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

Fibers Groundwater Extraction and Treatment System

Laboratory analytical results for water samples collected at the influent and effluent sample tap locations from the Fibers Groundwater Extraction and Treatment System on September 1, 2017 are presented below. The system average influent flow rate at the time the samples were collected was 305 gallons per minute (gpm). Sample results indicate that the treatment system is operating in compliance with operating parameters pursuant to the Consent Decree.

	VOC (µg/L)			
	Sample ID			
Compound	EFF-20170901	EFFDUP-20170901	INF-20170901	TB-20170901
Tetrachloroethene	ND	ND	6.6	ND
Trichloroethene	ND	ND	ND	ND
cis-1,2-dichloroethene	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Acetone	ND	ND	ND	ND
Acrolein	ND	ND	ND	ND
Styrene	R	ND	ND	ND
m&p-xylene	2.0 UJ	ND	ND	ND
Enflurane	ND	ND	1.6	ND
Haloether 229	ND	ND	24.8	ND
Haloether 406	ND	ND	ND	ND
Haloether 508	ND	ND	48.5	ND
Haloether 528	ND	ND	1.0	ND
Halomar	ND	ND	1.0	ND
Isoflurane	ND	ND	71.2	ND
Total Haloethers	ND	ND	148	ND
Other VOC	ND	ND	ND	ND

Notes:
VOC = volatile organic compounds.
µg/L = micrograms per liter.
EFF = effluent sample.
EFFDUP = effluent duplicate sample.
INF = influent sample.
TB = trip blank.
ND = not detected at or above laboratory reporting limit.
UJ = The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
R = The sample results are rejected.

Figures

Figure 1
Fibers Public Supply Wells Superfund Site
Summary of Treatment System Flow Rates

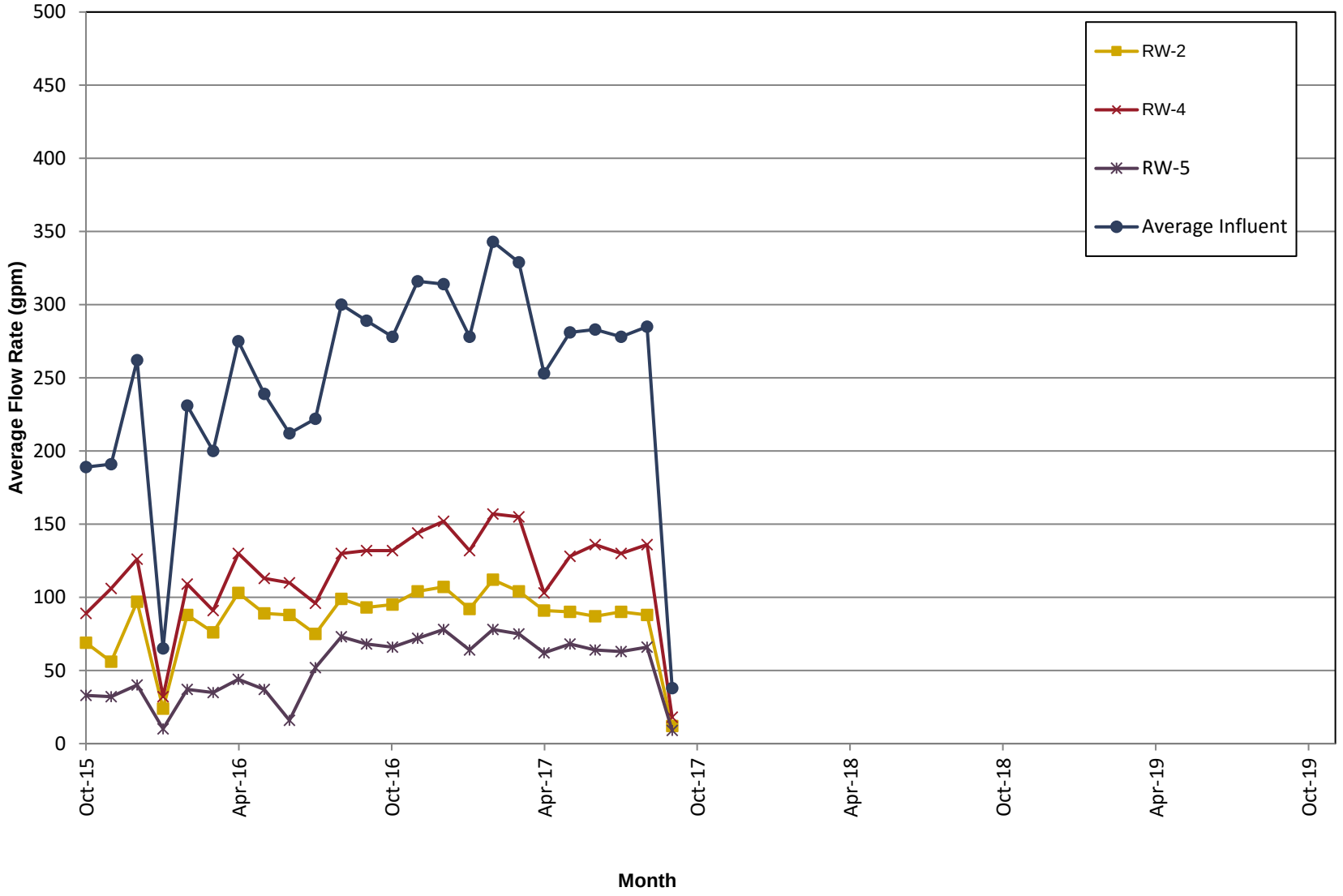


Figure 2
Fibers Public Supply Wells Superfund Site
Treatment System Influent -
Tetrachloroethene (PCE) Concentrations

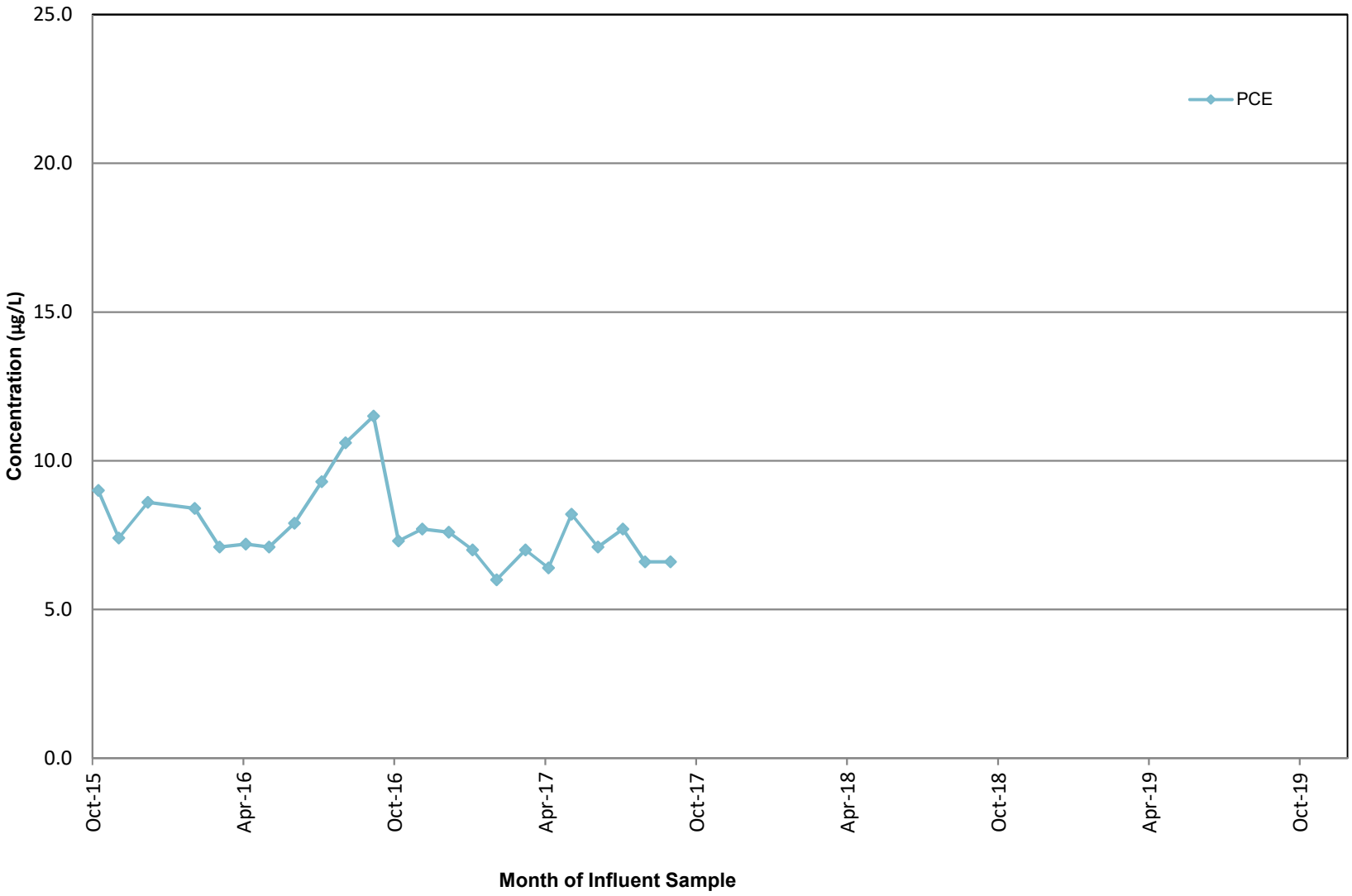
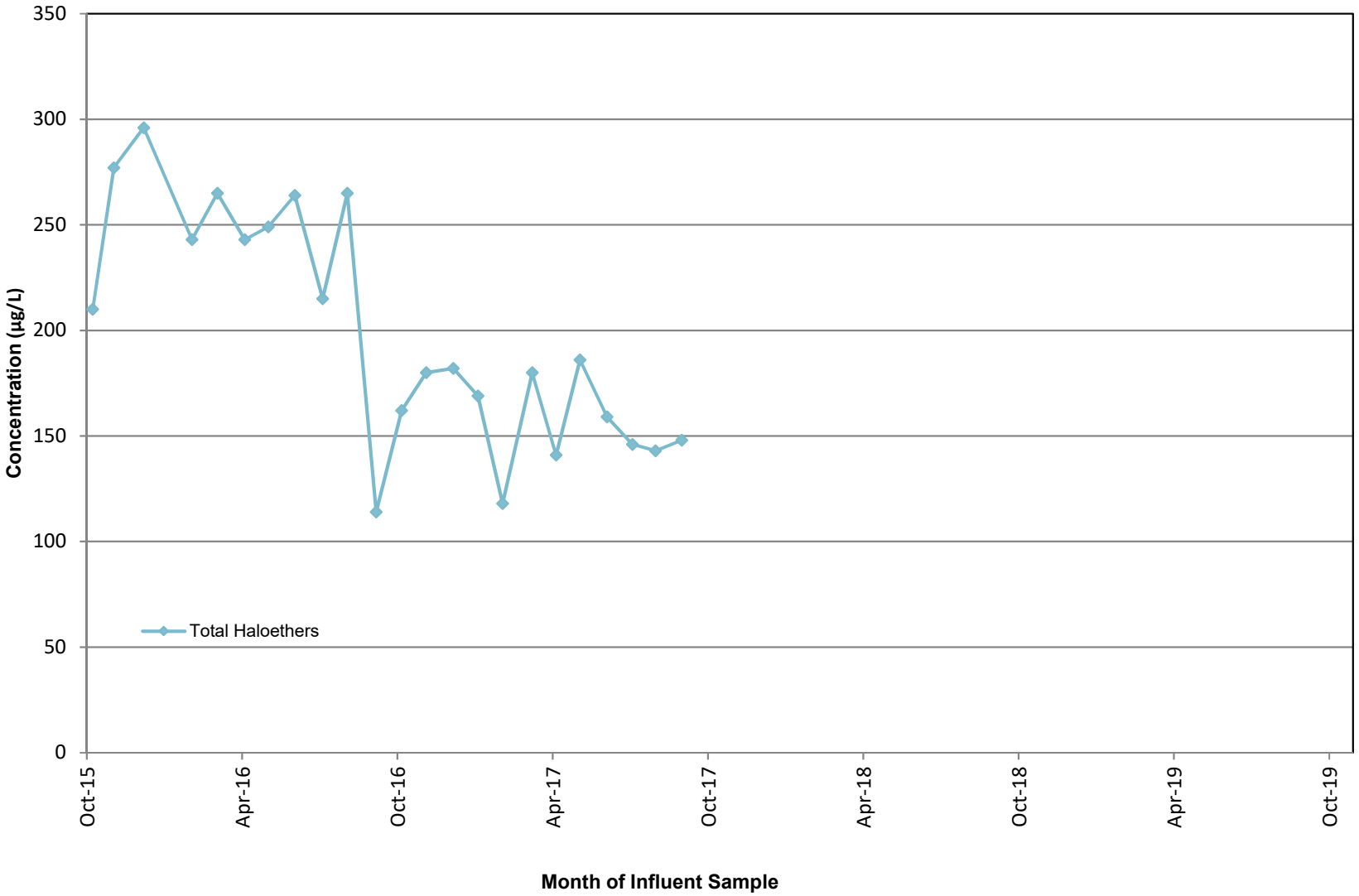


Figure 3
Fibers Public Supply Wells Superfund Site
Treatment System Influent -
Total Haloethers Concentrations



Attachment 1
Data Review Report #28375R

Fibers Group

Data Review

GUAYAMA, PUERTO RICO

Volatiles Analyses

SDG #2060521
Analyses Performed By:
Pace Analytical Services, Inc.
New Orleans, Louisiana

Report: #28375R
Review Level: Tier II
Project: CO001911.0005.1705A

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #2060521 for samples collected in association with the Fibers Group Site. The review was conducted as a Tier II evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Included with this assessment are the validation annotated sample result sheets and chain of custody. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis				
					VOC	SVOC	TPH	MET	MISC
TB-20170901	2060521001	Water	09/01/2017		X				
INF-20170901	2060521002	Water	09/01/2017		X				
EFF-20170901	2060521003	Water	09/01/2017		X				
EFF DUP-20170901	2060521004	Water	09/01/2017	EFF-20170901	X				

Note:

1. The matrix spike/matrix spike duplicate (MS/MSD) analysis was performed on sample location EFF-20170901.

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Method 8260. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

  U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

  B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers

  E The compound was quantitated above the calibration range.

  D Concentration is based on a diluted sample analysis.

- Validation Qualifiers

  J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

  JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.

  UB Compound considered non-detect at the listed value due to associated blank contamination.

  N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

  R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is

that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8260	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2 s.u.
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

s.u. Standard units

All samples were analyzed within acceptable holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the reporting limit (RL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the RL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

Sample locations associated with the MS/MSD exhibiting recoveries outside of the control limits are presented in the following table.

Sample Locations	Compound	MS Recovery	MSD Recovery
EFF-20170901	Styrene	<10%	<10%
	m&p-Xylene	AC	< LL but > 10%
	Haloether 229	> UL	> UL
	Haloether 421		
	Haloether 428		
	Methoxyflurane		
	1,1,2-Trichlorotrifluoroethane	> UL	AC
	Haloether 406		
	Haloether 427		

AC Acceptable

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

5. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

6. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations

are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
EFF-20170901 / EFF DUP-20170901	All compounds	U	U	AC

AC Acceptable

The calculated RPDs between the parent sample and field duplicate were acceptable.

7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment/Field blanks					X
C. Trip blanks		X		X	
Laboratory Control Sample (LCS) Accuracy (%R)		X		X	
Laboratory Control Sample Duplicate (LCSD) %R					X
LCS/LCSD Precision (RPD)					X
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision RPD		X		X	
Field/Laboratory Duplicate Sample RPD		X		X	
Surrogate Spike %R		X		X	
Dilution Factor		X		X	
Moisture Content					X

%R Percent recovery
RPD Relative percent difference
%RSD Relative standard deviation
%D Percent difference

VALIDATION PERFORMED BY: Joseph C. Houser

SIGNATURE: 

DATE: September 19, 2017

PEER REVIEW: Dennis Capria

DATE: September 29, 2017

CHAIN OF CUSTODY/
ANNOTATED SAMPLE ANALYSIS DATA SHEETS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

Sample: TB-20170901 **Lab ID: 2060521001** Collected: 09/01/17 00:00 Received: 09/06/17 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		09/07/17 11:50	67-64-1	
Acrolein	ND	ug/L	8.0	1		09/07/17 11:50	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		09/07/17 11:50	107-13-1	
Benzene	ND	ug/L	1.0	1		09/07/17 11:50	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/07/17 11:50	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/07/17 11:50	75-25-2	
Bromomethane	ND	ug/L	1.0	1		09/07/17 11:50	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		09/07/17 11:50	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		09/07/17 11:50	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		09/07/17 11:50	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/07/17 11:50	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/07/17 11:50	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/07/17 11:50	67-66-3	
Chloromethane	ND	ug/L	1.0	1		09/07/17 11:50	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		09/07/17 11:50	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		09/07/17 11:50	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		09/07/17 11:50	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/07/17 11:50	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		09/07/17 11:50	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/07/17 11:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/07/17 11:50	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/07/17 11:50	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/07/17 11:50	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/07/17 11:50	10061-02-6	
Enflurane	ND	ug/L	1.0	1		09/07/17 11:50	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		09/07/17 11:50	100-41-4	
Haloether 229	ND	ug/L	1.0	1		09/07/17 11:50		
Haloether 406	ND	ug/L	1.0	1		09/07/17 11:50		
Haloether 421	ND	ug/L	1.0	1		09/07/17 11:50		
Haloether 427	ND	ug/L	1.0	1		09/07/17 11:50		
Haloether 428	ND	ug/L	1.0	1		09/07/17 11:50		
Haloether 508	ND	ug/L	1.0	1		09/07/17 11:50		
Haloether 528	ND	ug/L	1.0	1		09/07/17 11:50		
Halomar	ND	ug/L	1.0	1		09/07/17 11:50		
2-Hexanone	ND	ug/L	2.0	1		09/07/17 11:50	591-78-6	
Isoflurane	ND	ug/L	1.0	1		09/07/17 11:50		
Methoxyflurane	ND	ug/L	1.0	1		09/07/17 11:50	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		09/07/17 11:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		09/07/17 11:50	108-10-1	
Styrene	ND	ug/L	1.0	1		09/07/17 11:50	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/07/17 11:50	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		09/07/17 11:50	127-18-4	
Toluene	ND	ug/L	1.0	1		09/07/17 11:50	108-88-3	
Total Haloether	ND	ug/L	1.0	1		09/07/17 11:50		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/07/17 11:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/07/17 11:50	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/07/17 11:50	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

Sample: TB-20170901 **Lab ID: 2060521001** Collected: 09/01/17 00:00 Received: 09/06/17 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		09/07/17 11:50	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/07/17 11:50	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		09/07/17 11:50	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		09/07/17 11:50	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		09/07/17 11:50	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		09/07/17 11:50	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%.	79-119	1		09/07/17 11:50	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	68-124	1		09/07/17 11:50	460-00-4	
Dibromofluoromethane (S)	101	%.	72-126	1		09/07/17 11:50	1868-53-7	

Sample: INF-20170901 **Lab ID: 2060521002** Collected: 09/01/17 09:26 Received: 09/06/17 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		09/07/17 12:08	67-64-1	
Acrolein	ND	ug/L	8.0	1		09/07/17 12:08	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		09/07/17 12:08	107-13-1	
Benzene	ND	ug/L	1.0	1		09/07/17 12:08	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/07/17 12:08	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/07/17 12:08	75-25-2	
Bromomethane	ND	ug/L	1.0	1		09/07/17 12:08	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		09/07/17 12:08	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		09/07/17 12:08	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		09/07/17 12:08	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/07/17 12:08	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/07/17 12:08	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/07/17 12:08	67-66-3	
Chloromethane	ND	ug/L	1.0	1		09/07/17 12:08	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		09/07/17 12:08	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		09/07/17 12:08	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		09/07/17 12:08	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/07/17 12:08	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		09/07/17 12:08	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/07/17 12:08	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/07/17 12:08	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/07/17 12:08	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/07/17 12:08	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/07/17 12:08	10061-02-6	
Enflurane	**1.6**	ug/L	1.0	1		09/07/17 12:08	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		09/07/17 12:08	100-41-4	
Haloether 229	**24.8**	ug/L	1.0	1		09/07/17 12:08		
Haloether 406	ND	ug/L	1.0	1		09/07/17 12:08		
Haloether 421	ND	ug/L	1.0	1		09/07/17 12:08		
Haloether 427	ND	ug/L	1.0	1		09/07/17 12:08		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

Sample: INF-20170901 **Lab ID: 2060521002** Collected: 09/01/17 09:26 Received: 09/06/17 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Haloether 428	ND	ug/L	1.0	1		09/07/17 12:08		
Haloether 508	**48.5**	ug/L	1.0	1		09/07/17 12:08		
Haloether 528	**1.0**	ug/L	1.0	1		09/07/17 12:08		
Halomar	**1.0**	ug/L	1.0	1		09/07/17 12:08		
2-Hexanone	ND	ug/L	2.0	1		09/07/17 12:08	591-78-6	
Isoflurane	**71.2**	ug/L	1.0	1		09/07/17 12:08		
Methoxyflurane	ND	ug/L	1.0	1		09/07/17 12:08	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		09/07/17 12:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		09/07/17 12:08	108-10-1	
Styrene	ND	ug/L	1.0	1		09/07/17 12:08	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/07/17 12:08	79-34-5	
Tetrachloroethene	**6.6**	ug/L	1.0	1		09/07/17 12:08	127-18-4	
Toluene	ND	ug/L	1.0	1		09/07/17 12:08	108-88-3	
Total Haloether	**148**	ug/L	1.0	1		09/07/17 12:08		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/07/17 12:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/07/17 12:08	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/07/17 12:08	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		09/07/17 12:08	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/07/17 12:08	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		09/07/17 12:08	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		09/07/17 12:08	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		09/07/17 12:08	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		09/07/17 12:08	95-47-6	
Surrogates								
Toluene-d8 (S)	103	%.	79-119	1		09/07/17 12:08	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	68-124	1		09/07/17 12:08	460-00-4	
Dibromofluoromethane (S)	102	%.	72-126	1		09/07/17 12:08	1868-53-7	

Sample: EFF-20170901 **Lab ID: 2060521003** Collected: 09/01/17 10:00 Received: 09/06/17 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		09/07/17 11:33	67-64-1	
Acrolein	ND	ug/L	8.0	1		09/07/17 11:33	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		09/07/17 11:33	107-13-1	
Benzene	ND	ug/L	1.0	1		09/07/17 11:33	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/07/17 11:33	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/07/17 11:33	75-25-2	
Bromomethane	ND	ug/L	1.0	1		09/07/17 11:33	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		09/07/17 11:33	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		09/07/17 11:33	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		09/07/17 11:33	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/07/17 11:33	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/07/17 11:33	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/07/17 11:33	67-66-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

Sample: EFF-20170901 **Lab ID: 2060521003** Collected: 09/01/17 10:00 Received: 09/06/17 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Chloromethane	ND	ug/L	1.0	1		09/07/17 11:33	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		09/07/17 11:33	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		09/07/17 11:33	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		09/07/17 11:33	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/07/17 11:33	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		09/07/17 11:33	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/07/17 11:33	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/07/17 11:33	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/07/17 11:33	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/07/17 11:33	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/07/17 11:33	10061-02-6	
Enflurane	ND	ug/L	1.0	1		09/07/17 11:33	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		09/07/17 11:33	100-41-4	
Haloether 229	ND	ug/L	1.0	1		09/07/17 11:33		~~M1~~
Haloether 406	ND	ug/L	1.0	1		09/07/17 11:33		~~M1~~
Haloether 421	ND	ug/L	1.0	1		09/07/17 11:33		~~M1~~
Haloether 427	ND	ug/L	1.0	1		09/07/17 11:33		~~M1~~
Haloether 428	ND	ug/L	1.0	1		09/07/17 11:33		~~M1~~
Haloether 508	ND	ug/L	1.0	1		09/07/17 11:33		
Haloether 528	ND	ug/L	1.0	1		09/07/17 11:33		
Halomar	ND	ug/L	1.0	1		09/07/17 11:33		
2-Hexanone	ND	ug/L	2.0	1		09/07/17 11:33	591-78-6	
Isoflurane	ND	ug/L	1.0	1		09/07/17 11:33		
Methoxyflurane	ND	ug/L	1.0	1		09/07/17 11:33	76-38-0	~~M1~~
Methylene Chloride	ND	ug/L	5.0	1		09/07/17 11:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		09/07/17 11:33	108-10-1	
Styrene	~~ND~~	~~ug/L~~	~~1.0~~	~~1~~		~~09/07/17 11:33~~	~~100-42-5~~	M1 R
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/07/17 11:33	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		09/07/17 11:33	127-18-4	
Toluene	ND	ug/L	1.0	1		09/07/17 11:33	108-88-3	
Total Haloether	ND	ug/L	1.0	1		09/07/17 11:33		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/07/17 11:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/07/17 11:33	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/07/17 11:33	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		09/07/17 11:33	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/07/17 11:33	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		09/07/17 11:33	76-13-1	~~M1~~
Vinyl chloride	ND	ug/L	1.0	1		09/07/17 11:33	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		09/07/17 11:33	179601-23-1	~~M1~~ UJ
o-Xylene	ND	ug/L	1.0	1		09/07/17 11:33	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%.	79-119	1		09/07/17 11:33	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	68-124	1		09/07/17 11:33	460-00-4	
Dibromofluoromethane (S)	104	%.	72-126	1		09/07/17 11:33	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

Sample: EFF DUP-20170901 **Lab ID: 2060521004** Collected: 09/01/17 10:00 Received: 09/06/17 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		09/07/17 12:26	67-64-1	
Acrolein	ND	ug/L	8.0	1		09/07/17 12:26	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		09/07/17 12:26	107-13-1	
Benzene	ND	ug/L	1.0	1		09/07/17 12:26	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/07/17 12:26	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/07/17 12:26	75-25-2	
Bromomethane	ND	ug/L	1.0	1		09/07/17 12:26	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		09/07/17 12:26	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		09/07/17 12:26	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		09/07/17 12:26	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/07/17 12:26	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/07/17 12:26	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/07/17 12:26	67-66-3	
Chloromethane	ND	ug/L	1.0	1		09/07/17 12:26	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		09/07/17 12:26	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		09/07/17 12:26	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		09/07/17 12:26	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/07/17 12:26	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		09/07/17 12:26	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/07/17 12:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/07/17 12:26	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/07/17 12:26	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/07/17 12:26	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/07/17 12:26	10061-02-6	
Enflurane	ND	ug/L	1.0	1		09/07/17 12:26	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		09/07/17 12:26	100-41-4	
Haloether 229	ND	ug/L	1.0	1		09/07/17 12:26		
Haloether 406	ND	ug/L	1.0	1		09/07/17 12:26		
Haloether 421	ND	ug/L	1.0	1		09/07/17 12:26		
Haloether 427	ND	ug/L	1.0	1		09/07/17 12:26		
Haloether 428	ND	ug/L	1.0	1		09/07/17 12:26		
Haloether 508	ND	ug/L	1.0	1		09/07/17 12:26		
Haloether 528	ND	ug/L	1.0	1		09/07/17 12:26		
Halomar	ND	ug/L	1.0	1		09/07/17 12:26		
2-Hexanone	ND	ug/L	2.0	1		09/07/17 12:26	591-78-6	
Isoflurane	ND	ug/L	1.0	1		09/07/17 12:26		
Methoxyflurane	ND	ug/L	1.0	1		09/07/17 12:26	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		09/07/17 12:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		09/07/17 12:26	108-10-1	
Styrene	ND	ug/L	1.0	1		09/07/17 12:26	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/07/17 12:26	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		09/07/17 12:26	127-18-4	
Toluene	ND	ug/L	1.0	1		09/07/17 12:26	108-88-3	
Total Haloether	ND	ug/L	1.0	1		09/07/17 12:26		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/07/17 12:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/07/17 12:26	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/07/17 12:26	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

Sample: EFF DUP-20170901 **Lab ID: 2060521004** Collected: 09/01/17 10:00 Received: 09/06/17 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		09/07/17 12:26	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/07/17 12:26	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		09/07/17 12:26	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		09/07/17 12:26	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		09/07/17 12:26	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		09/07/17 12:26	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%.	79-119	1		09/07/17 12:26	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	68-124	1		09/07/17 12:26	460-00-4	
Dibromofluoromethane (S)	102	%.	72-126	1		09/07/17 12:26	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical

CHAIN-OF-CUSTO

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WO# : 2060521

2060521

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	ARCADIS	Report To:	David Howard	Attention:	
Address:	410 North 44th St.	Copy To:		Company Name:	
	Phoenix, AZ 85008			Address:	
Email:	david.howard@arcadis-us.com	Purchase Order #:		Pace Quote:	
Phone:	NONE Fax:	Project Name:	Fibers	Pace Project Manager:	justin.stock@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	1037

Regulatory Agency	State / Location
	PR

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): 8260- VOCs + Halos	Trip BLANK	Residual Chlorine (Y/N)
1	TB- 20170901	WT	G			09/01/17	LAB		2				2						X	X	
2	INF - 20170901	WT	G			09/01/17	0926		3				3						X		
3	EFF - 20170901	WT	G			09/01/17	1000		3				3						X		
4	EFFDUP-20170901	WT	G			09/01/17	1000		3				3						X		
5	EFF MS - 20170901	WT	G			09/01/17	1000		3				3						X		
6	EFF MSD - 20170901	WT	G			09/01/17	1000		3				3						X		
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Andrew Colon / Arcadis	09/01/17	1332	[signature] / Pace	9-1-17	13:32
	[signature] / Pace	9/1/17	17:00	Fed Ex		
	Fed Ex	9/6/17	0815	[signature] - Pace	9/6/17	0815

SAMPLE CONDITIONS				
TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)	
1.0	Y	Y	Y	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Andrew Colon

SIGNATURE of SAMPLER: [signature] DATE Signed: 09/01/17

Attachment 2
Pace Laboratory Analytical Report #2060521

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

September 08, 2017

David Howard
ARCADIS
410 North 44th St.
Suite 1000
Phoenix, AZ 85008

RE: Project: Fibers Public Supply Wells
Pace Project No.: 2060521

Dear David Howard:
Enclosed are the analytical results for sample(s) received by the laboratory on September 06, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Craig McCollum
craig.mccollum@pacelabs.com
504-305-3618
Project Manager

Enclosures

cc: Janisse Diaz, Arcadis
Gisela Hernandez Rivera, Arcadis
Elvin Varela, ARCADIS

Pace Analytical Services, LLC
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St. Rose, LA 70087
(504)469-0333

CERTIFICATIONS

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch: 11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC): E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP): 02006
Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Texas Commission on Env. Quality (NELAC): T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-00119
Commonwealth of Virginia (TNI): 480246

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

SAMPLE SUMMARY

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2060521001	**TB-20170901**	Water	09/01/17 00:00	09/06/17 08:15
2060521002	**INF-20170901**	Water	09/01/17 09:26	09/06/17 08:15
2060521003	**EFF-20170901**	Water	09/01/17 10:00	09/06/17 08:15
2060521004	**EFF DUP-20170901**	Water	09/01/17 10:00	09/06/17 08:15

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SAMPLE ANALYTE COUNT

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2060521001	**TB-20170901**	EPA 5030B/8260	GEM	56	PASI-N
2060521002	**INF-20170901**	EPA 5030B/8260	GEM	56	PASI-N
2060521003	**EFF-20170901**	EPA 5030B/8260	GEM	56	PASI-N
2060521004	**EFF DUP-20170901**	EPA 5030B/8260	GEM	56	PASI-N

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PROJECT NARRATIVE

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

Method: **EPA 5030B/8260**
Description: 8260 MSV HALOETHERS
Client: ARCADIS
Date: September 08, 2017

General Information:
4 samples were analyzed for EPA 5030B/8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 88376

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2060521003

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 378239)
  - 1,1,2-Trichlorotrifluoroethane
  - Haloether 229
  - Haloether 406
  - Haloether 421
  - Haloether 427
  - Haloether 428
  - Methoxyflurane
  - Styrene
- MSD (Lab ID: 378240)
  - Haloether 229
  - Haloether 421
  - Haloether 428

Pace Analytical Services, LLC
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PROJECT NARRATIVE

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

Method: **EPA 5030B/8260**
Description: 8260 MSV HALOETHERS
Client: ARCADIS
Date: September 08, 2017

QC Batch: 88376

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2060521003

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- Methoxyflurane
- Styrene
- m&p-Xylene

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

Sample: TB-20170901 **Lab ID: 2060521001** Collected: 09/01/17 00:00 Received: 09/06/17 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		09/07/17 11:50	67-64-1	
Acrolein	ND	ug/L	8.0	1		09/07/17 11:50	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		09/07/17 11:50	107-13-1	
Benzene	ND	ug/L	1.0	1		09/07/17 11:50	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/07/17 11:50	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/07/17 11:50	75-25-2	
Bromomethane	ND	ug/L	1.0	1		09/07/17 11:50	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		09/07/17 11:50	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		09/07/17 11:50	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		09/07/17 11:50	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/07/17 11:50	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/07/17 11:50	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/07/17 11:50	67-66-3	
Chloromethane	ND	ug/L	1.0	1		09/07/17 11:50	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		09/07/17 11:50	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		09/07/17 11:50	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		09/07/17 11:50	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/07/17 11:50	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		09/07/17 11:50	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/07/17 11:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/07/17 11:50	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/07/17 11:50	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/07/17 11:50	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/07/17 11:50	10061-02-6	
Enflurane	ND	ug/L	1.0	1		09/07/17 11:50	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		09/07/17 11:50	100-41-4	
Haloether 229	ND	ug/L	1.0	1		09/07/17 11:50		
Haloether 406	ND	ug/L	1.0	1		09/07/17 11:50		
Haloether 421	ND	ug/L	1.0	1		09/07/17 11:50		
Haloether 427	ND	ug/L	1.0	1		09/07/17 11:50		
Haloether 428	ND	ug/L	1.0	1		09/07/17 11:50		
Haloether 508	ND	ug/L	1.0	1		09/07/17 11:50		
Haloether 528	ND	ug/L	1.0	1		09/07/17 11:50		
Halomar	ND	ug/L	1.0	1		09/07/17 11:50		
2-Hexanone	ND	ug/L	2.0	1		09/07/17 11:50	591-78-6	
Isoflurane	ND	ug/L	1.0	1		09/07/17 11:50		
Methoxyflurane	ND	ug/L	1.0	1		09/07/17 11:50	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		09/07/17 11:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		09/07/17 11:50	108-10-1	
Styrene	ND	ug/L	1.0	1		09/07/17 11:50	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/07/17 11:50	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		09/07/17 11:50	127-18-4	
Toluene	ND	ug/L	1.0	1		09/07/17 11:50	108-88-3	
Total Haloether	ND	ug/L	1.0	1		09/07/17 11:50		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/07/17 11:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/07/17 11:50	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/07/17 11:50	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

Sample: TB-20170901 **Lab ID: 2060521001** Collected: 09/01/17 00:00 Received: 09/06/17 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		09/07/17 11:50	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/07/17 11:50	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		09/07/17 11:50	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		09/07/17 11:50	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		09/07/17 11:50	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		09/07/17 11:50	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%.	79-119	1		09/07/17 11:50	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	68-124	1		09/07/17 11:50	460-00-4	
Dibromofluoromethane (S)	101	%.	72-126	1		09/07/17 11:50	1868-53-7	

Sample: INF-20170901 **Lab ID: 2060521002** Collected: 09/01/17 09:26 Received: 09/06/17 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		09/07/17 12:08	67-64-1	
Acrolein	ND	ug/L	8.0	1		09/07/17 12:08	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		09/07/17 12:08	107-13-1	
Benzene	ND	ug/L	1.0	1		09/07/17 12:08	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/07/17 12:08	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/07/17 12:08	75-25-2	
Bromomethane	ND	ug/L	1.0	1		09/07/17 12:08	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		09/07/17 12:08	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		09/07/17 12:08	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		09/07/17 12:08	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/07/17 12:08	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/07/17 12:08	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/07/17 12:08	67-66-3	
Chloromethane	ND	ug/L	1.0	1		09/07/17 12:08	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		09/07/17 12:08	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		09/07/17 12:08	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		09/07/17 12:08	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/07/17 12:08	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		09/07/17 12:08	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/07/17 12:08	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/07/17 12:08	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/07/17 12:08	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/07/17 12:08	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/07/17 12:08	10061-02-6	
Enflurane	**1.6**	ug/L	1.0	1		09/07/17 12:08	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		09/07/17 12:08	100-41-4	
Haloether 229	**24.8**	ug/L	1.0	1		09/07/17 12:08		
Haloether 406	ND	ug/L	1.0	1		09/07/17 12:08		
Haloether 421	ND	ug/L	1.0	1		09/07/17 12:08		
Haloether 427	ND	ug/L	1.0	1		09/07/17 12:08		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

Sample: INF-20170901 **Lab ID: 2060521002** Collected: 09/01/17 09:26 Received: 09/06/17 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Haloether 428	ND	ug/L	1.0	1		09/07/17 12:08		
Haloether 508	**48.5**	ug/L	1.0	1		09/07/17 12:08		
Haloether 528	**1.0**	ug/L	1.0	1		09/07/17 12:08		
Halomar	**1.0**	ug/L	1.0	1		09/07/17 12:08		
2-Hexanone	ND	ug/L	2.0	1		09/07/17 12:08	591-78-6	
Isoflurane	**71.2**	ug/L	1.0	1		09/07/17 12:08		
Methoxyflurane	ND	ug/L	1.0	1		09/07/17 12:08	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		09/07/17 12:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		09/07/17 12:08	108-10-1	
Styrene	ND	ug/L	1.0	1		09/07/17 12:08	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/07/17 12:08	79-34-5	
Tetrachloroethene	**6.6**	ug/L	1.0	1		09/07/17 12:08	127-18-4	
Toluene	ND	ug/L	1.0	1		09/07/17 12:08	108-88-3	
Total Haloether	**148**	ug/L	1.0	1		09/07/17 12:08		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/07/17 12:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/07/17 12:08	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/07/17 12:08	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		09/07/17 12:08	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/07/17 12:08	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		09/07/17 12:08	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		09/07/17 12:08	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		09/07/17 12:08	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		09/07/17 12:08	95-47-6	
Surrogates								
Toluene-d8 (S)	103	%.	79-119	1		09/07/17 12:08	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	68-124	1		09/07/17 12:08	460-00-4	
Dibromofluoromethane (S)	102	%.	72-126	1		09/07/17 12:08	1868-53-7	

Sample: EFF-20170901 **Lab ID: 2060521003** Collected: 09/01/17 10:00 Received: 09/06/17 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		09/07/17 11:33	67-64-1	
Acrolein	ND	ug/L	8.0	1		09/07/17 11:33	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		09/07/17 11:33	107-13-1	
Benzene	ND	ug/L	1.0	1		09/07/17 11:33	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/07/17 11:33	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/07/17 11:33	75-25-2	
Bromomethane	ND	ug/L	1.0	1		09/07/17 11:33	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		09/07/17 11:33	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		09/07/17 11:33	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		09/07/17 11:33	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/07/17 11:33	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/07/17 11:33	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/07/17 11:33	67-66-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

Sample: EFF-20170901 **Lab ID: 2060521003** Collected: 09/01/17 10:00 Received: 09/06/17 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Chloromethane	ND	ug/L	1.0	1		09/07/17 11:33	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		09/07/17 11:33	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		09/07/17 11:33	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		09/07/17 11:33	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/07/17 11:33	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		09/07/17 11:33	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/07/17 11:33	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/07/17 11:33	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/07/17 11:33	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/07/17 11:33	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/07/17 11:33	10061-02-6	
Enflurane	ND	ug/L	1.0	1		09/07/17 11:33	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		09/07/17 11:33	100-41-4	
Haloether 229	ND	ug/L	1.0	1		09/07/17 11:33		M1
Haloether 406	ND	ug/L	1.0	1		09/07/17 11:33		M1
Haloether 421	ND	ug/L	1.0	1		09/07/17 11:33		M1
Haloether 427	ND	ug/L	1.0	1		09/07/17 11:33		M1
Haloether 428	ND	ug/L	1.0	1		09/07/17 11:33		M1
Haloether 508	ND	ug/L	1.0	1		09/07/17 11:33		
Haloether 528	ND	ug/L	1.0	1		09/07/17 11:33		
Halomar	ND	ug/L	1.0	1		09/07/17 11:33		
2-Hexanone	ND	ug/L	2.0	1		09/07/17 11:33	591-78-6	
Isoflurane	ND	ug/L	1.0	1		09/07/17 11:33		
Methoxyflurane	ND	ug/L	1.0	1		09/07/17 11:33	76-38-0	M1
Methylene Chloride	ND	ug/L	5.0	1		09/07/17 11:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		09/07/17 11:33	108-10-1	
Styrene	ND	ug/L	1.0	1		09/07/17 11:33	100-42-5	M1
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/07/17 11:33	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		09/07/17 11:33	127-18-4	
Toluene	ND	ug/L	1.0	1		09/07/17 11:33	108-88-3	
Total Haloether	ND	ug/L	1.0	1		09/07/17 11:33		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/07/17 11:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/07/17 11:33	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/07/17 11:33	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		09/07/17 11:33	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/07/17 11:33	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		09/07/17 11:33	76-13-1	M1
Vinyl chloride	ND	ug/L	1.0	1		09/07/17 11:33	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		09/07/17 11:33	179601-23-1	M1
o-Xylene	ND	ug/L	1.0	1		09/07/17 11:33	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%.	79-119	1		09/07/17 11:33	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	68-124	1		09/07/17 11:33	460-00-4	
Dibromofluoromethane (S)	104	%.	72-126	1		09/07/17 11:33	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

Sample: EFF DUP-20170901 **Lab ID: 2060521004** Collected: 09/01/17 10:00 Received: 09/06/17 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		09/07/17 12:26	67-64-1	
Acrolein	ND	ug/L	8.0	1		09/07/17 12:26	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		09/07/17 12:26	107-13-1	
Benzene	ND	ug/L	1.0	1		09/07/17 12:26	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/07/17 12:26	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/07/17 12:26	75-25-2	
Bromomethane	ND	ug/L	1.0	1		09/07/17 12:26	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		09/07/17 12:26	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		09/07/17 12:26	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		09/07/17 12:26	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		09/07/17 12:26	108-90-7	
Chloroethane	ND	ug/L	1.0	1		09/07/17 12:26	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/07/17 12:26	67-66-3	
Chloromethane	ND	ug/L	1.0	1		09/07/17 12:26	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		09/07/17 12:26	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		09/07/17 12:26	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		09/07/17 12:26	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/07/17 12:26	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		09/07/17 12:26	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/07/17 12:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/07/17 12:26	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		09/07/17 12:26	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		09/07/17 12:26	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		09/07/17 12:26	10061-02-6	
Enflurane	ND	ug/L	1.0	1		09/07/17 12:26	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		09/07/17 12:26	100-41-4	
Haloether 229	ND	ug/L	1.0	1		09/07/17 12:26		
Haloether 406	ND	ug/L	1.0	1		09/07/17 12:26		
Haloether 421	ND	ug/L	1.0	1		09/07/17 12:26		
Haloether 427	ND	ug/L	1.0	1		09/07/17 12:26		
Haloether 428	ND	ug/L	1.0	1		09/07/17 12:26		
Haloether 508	ND	ug/L	1.0	1		09/07/17 12:26		
Haloether 528	ND	ug/L	1.0	1		09/07/17 12:26		
Halomar	ND	ug/L	1.0	1		09/07/17 12:26		
2-Hexanone	ND	ug/L	2.0	1		09/07/17 12:26	591-78-6	
Isoflurane	ND	ug/L	1.0	1		09/07/17 12:26		
Methoxyflurane	ND	ug/L	1.0	1		09/07/17 12:26	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		09/07/17 12:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		09/07/17 12:26	108-10-1	
Styrene	ND	ug/L	1.0	1		09/07/17 12:26	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/07/17 12:26	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		09/07/17 12:26	127-18-4	
Toluene	ND	ug/L	1.0	1		09/07/17 12:26	108-88-3	
Total Haloether	ND	ug/L	1.0	1		09/07/17 12:26		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/07/17 12:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/07/17 12:26	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/07/17 12:26	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

Sample: EFF DUP-20170901 **Lab ID: 2060521004** Collected: 09/01/17 10:00 Received: 09/06/17 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		09/07/17 12:26	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		09/07/17 12:26	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		09/07/17 12:26	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		09/07/17 12:26	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		09/07/17 12:26	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		09/07/17 12:26	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%.	79-119	1		09/07/17 12:26	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	68-124	1		09/07/17 12:26	460-00-4	
Dibromofluoromethane (S)	102	%.	72-126	1		09/07/17 12:26	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

QC Batch: 88376 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV
Associated Lab Samples: 2060521001, 2060521002, 2060521003, 2060521004

METHOD BLANK: 378237 Matrix: Water
Associated Lab Samples: 2060521001, 2060521002, 2060521003, 2060521004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/07/17 10:04	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/07/17 10:04	
1,1,2-Trichloroethane	ug/L	ND	1.0	09/07/17 10:04	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	1.0	09/07/17 10:04	
1,1-Dichloroethane	ug/L	ND	1.0	09/07/17 10:04	
1,1-Dichloroethene	ug/L	ND	1.0	09/07/17 10:04	
1,2,3-Trichloropropane	ug/L	ND	1.0	09/07/17 10:04	
1,2-Dichloroethane	ug/L	ND	1.0	09/07/17 10:04	
1,2-Dichloropropane	ug/L	ND	1.0	09/07/17 10:04	
2-Butanone (MEK)	ug/L	ND	2.0	09/07/17 10:04	
2-Hexanone	ug/L	ND	2.0	09/07/17 10:04	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	2.0	09/07/17 10:04	
Acetone	ug/L	ND	4.0	09/07/17 10:04	
Acrolein	ug/L	ND	8.0	09/07/17 10:04	
Acrylonitrile	ug/L	ND	4.0	09/07/17 10:04	
Benzene	ug/L	ND	1.0	09/07/17 10:04	
Bromodichloromethane	ug/L	ND	1.0	09/07/17 10:04	
Bromoform	ug/L	ND	1.0	09/07/17 10:04	
Bromomethane	ug/L	ND	1.0	09/07/17 10:04	
Carbon disulfide	ug/L	ND	1.0	09/07/17 10:04	
Carbon tetrachloride	ug/L	ND	1.0	09/07/17 10:04	
Chlorobenzene	ug/L	ND	1.0	09/07/17 10:04	
Chloroethane	ug/L	ND	1.0	09/07/17 10:04	
Chloroform	ug/L	ND	1.0	09/07/17 10:04	
Chloromethane	ug/L	ND	1.0	09/07/17 10:04	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/07/17 10:04	
cis-1,3-Dichloropropene	ug/L	ND	1.0	09/07/17 10:04	
Dibromochloromethane	ug/L	ND	1.0	09/07/17 10:04	
Dibromomethane	ug/L	ND	1.0	09/07/17 10:04	
Enflurane	ug/L	ND	1.0	09/07/17 10:04	
Ethylbenzene	ug/L	ND	1.0	09/07/17 10:04	
Haloether 229	ug/L	ND	1.0	09/07/17 10:04	
Haloether 406	ug/L	ND	1.0	09/07/17 10:04	
Haloether 421	ug/L	ND	1.0	09/07/17 10:04	
Haloether 427	ug/L	ND	1.0	09/07/17 10:04	
Haloether 428	ug/L	ND	1.0	09/07/17 10:04	
Haloether 508	ug/L	ND	1.0	09/07/17 10:04	
Haloether 528	ug/L	ND	1.0	09/07/17 10:04	
Halomar	ug/L	ND	1.0	09/07/17 10:04	
Isoflurane	ug/L	ND	1.0	09/07/17 10:04	
m&p-Xylene	ug/L	ND	2.0	09/07/17 10:04	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

METHOD BLANK: 378237 Matrix: Water
Associated Lab Samples: 2060521001, 2060521002, 2060521003, 2060521004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methoxyflurane	ug/L	ND	1.0	09/07/17 10:04	
Methylene Chloride	ug/L	ND	5.0	09/07/17 10:04	
o-Xylene	ug/L	ND	1.0	09/07/17 10:04	
Styrene	ug/L	ND	1.0	09/07/17 10:04	
Tetrachloroethene	ug/L	ND	1.0	09/07/17 10:04	
Toluene	ug/L	ND	1.0	09/07/17 10:04	
Total Haloether	ug/L	ND	1.0	09/07/17 10:04	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/07/17 10:04	
trans-1,3-Dichloropropene	ug/L	ND	1.0	09/07/17 10:04	
Trichloroethene	ug/L	ND	1.0	09/07/17 10:04	
Trichlorofluoromethane	ug/L	ND	1.0	09/07/17 10:04	
Vinyl chloride	ug/L	ND	1.0	09/07/17 10:04	
4-Bromofluorobenzene (S)	%.	99	68-124	09/07/17 10:04	
Dibromofluoromethane (S)	%.	98	72-126	09/07/17 10:04	
Toluene-d8 (S)	%.	102	79-119	09/07/17 10:04	

LABORATORY CONTROL SAMPLE: 378238

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	52.4	105	62-131	
1,1,2,2-Tetrachloroethane	ug/L	50	43.7	87	15-179	
1,1,2-Trichloroethane	ug/L	50	49.5	99	58-144	
1,1,2-Trichlorotrifluoroethane	ug/L	50	49.7	99	38-121	
1,1-Dichloroethane	ug/L	50	51.7	103	63-129	
1,1-Dichloroethene	ug/L	50	47.3	95	51-139	
1,2,3-Trichloropropane	ug/L	50	46.5	93	13-187	
1,2-Dichloroethane	ug/L	50	50.5	101	57-148	
1,2-Dichloropropane	ug/L	50	50.8	102	66-128	
2-Butanone (MEK)	ug/L	50	56.9	114	32-183	
2-Hexanone	ug/L	50	49.1	98	36-170	
4-Methyl-2-pentanone (MIBK)	ug/L	50	47.8	96	26-171	
Acetone	ug/L	50	72.9	146	22-165	
Acrolein	ug/L	100	113	113	10-131	
Acrylonitrile	ug/L	50	48.3	97	18-149	
Benzene	ug/L	50	48.0	96	62-131	
Bromodichloromethane	ug/L	50	51.1	102	69-132	
Bromoform	ug/L	50	41.9	84	35-166	
Bromomethane	ug/L	50	51.4	103	34-158	
Carbon disulfide	ug/L	50	46.1	92	31-128	
Carbon tetrachloride	ug/L	50	55.7	111	54-144	
Chlorobenzene	ug/L	50	48.6	97	70-127	
Chloroethane	ug/L	50	53.8	108	17-195	
Chloroform	ug/L	50	48.7	97	73-134	
Chloromethane	ug/L	50	53.8	108	17-153	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

LABORATORY CONTROL SAMPLE: 378238

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	50	48.5	97	68-129	
cis-1,3-Dichloropropene	ug/L	50	48.6	97	72-138	
Dibromochloromethane	ug/L	50	46.8	94	49-146	
Dibromomethane	ug/L	50	50.3	101	56-145	
Enflurane	ug/L	50	47.4	95	56-135	
Ethylbenzene	ug/L	50	45.9	92	66-126	
Haloether 229	ug/L	50	61.2	122	62-123	
Haloether 406	ug/L	50	57.7	115	62-134	
Haloether 421	ug/L	50	62.4	125	70-128	
Haloether 427	ug/L	50	50.4	101	69-153	
Haloether 428	ug/L	50	55.5	111	70-134	
Haloether 508	ug/L	50	54.6	109	52-139	
Haloether 528	ug/L	50	57.5	115	48-157	
Halomar	ug/L	50	52.4	105	62-128	
Isoflurane	ug/L	50	47.9	96	61-132	
m&p-Xylene	ug/L	100	91.8	92	65-129	
Methoxyflurane	ug/L	50	60.5	121	72-124	
Methylene Chloride	ug/L	50	49.6	99	46-168	
o-Xylene	ug/L	50	46.8	94	65-124	
Styrene	ug/L	50	47.7	95	72-133	
Tetrachloroethene	ug/L	50	49.2	98	46-157	
Toluene	ug/L	50	49.8	100	69-126	
Total Haloether	ug/L		607			
trans-1,2-Dichloroethene	ug/L	50	51.4	103	60-129	
trans-1,3-Dichloropropene	ug/L	50	47.7	95	59-149	
Trichloroethene	ug/L	50	49.5	99	67-132	
Trichlorofluoromethane	ug/L	50	58.6	117	39-171	
Vinyl chloride	ug/L	50	47.1	94	27-149	
4-Bromofluorobenzene (S)	%.			96	68-124	
Dibromofluoromethane (S)	%.			100	72-126	
Toluene-d8 (S)	%.			101	79-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 378239 378240

Parameter	Units	2060521003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	50	50	61.5	57.3	123	115	54-137	7	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	50	50	49.2	50.2	98	100	15-187	2	20	
1,1,2-Trichloroethane	ug/L	ND	50	50	54.9	55.5	110	111	59-148	1	20	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	50	50	59.6	53.6	119	107	40-117	10	20	M1
1,1-Dichloroethane	ug/L	ND	50	50	59.1	55.1	118	110	59-133	7	20	
1,1-Dichloroethene	ug/L	ND	50	50	56.1	52.4	112	105	44-146	7	20	
1,2,3-Trichloropropane	ug/L	ND	50	50	51.7	53.2	103	106	14-199	3	20	
1,2-Dichloroethane	ug/L	ND	50	50	56.7	56.6	113	113	56-154	0	20	
1,2-Dichloropropane	ug/L	ND	50	50	57.8	55.8	116	112	62-135	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 378239 378240

Parameter	Units	2060521003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Butanone (MEK)	ug/L	ND	50	50	52.8	52.4	106	105	20-205	1	20	
2-Hexanone	ug/L	ND	50	50	50.8	50.3	102	101	25-189	1	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	50	50	52.4	53.4	105	107	23-184	2	20	
Acetone	ug/L	ND	50	50	59.8	57.4	120	115	11-217	4	20	
Acrolein	ug/L	ND	100	100	103	92.5	103	93	10-142	11	20	
Acrylonitrile	ug/L	ND	50	50	51.4	53.4	103	107	20-164	4	20	
Benzene	ug/L	ND	50	50	57.1	53.0	114	106	52-141	7	20	
Bromodichloromethane	ug/L	ND	50	50	57.9	56.2	116	112	70-134	3	20	
Bromoform	ug/L	ND	50	50	46.6	47.5	93	95	37-171	2	20	
Bromomethane	ug/L	ND	50	50	61.0	57.9	122	116	34-155	5	20	
Carbon disulfide	ug/L	ND	50	50	58.9	50.6	117	101	28-130	15	20	
Carbon tetrachloride	ug/L	ND	50	50	66.0	62.4	132	125	48-146	6	20	
Chlorobenzene	ug/L	ND	50	50	55.3	53.7	111	107	67-129	3	20	
Chloroethane	ug/L	ND	50	50	64.1	59.2	128	118	12-192	8	20	
Chloroform	ug/L	ND	50	50	56.1	54.2	112	108	66-143	3	20	
Chloromethane	ug/L	ND	50	50	77.8	71.4	155	142	14-155	9	20	
cis-1,2-Dichloroethene	ug/L	ND	50	50	56.8	54.1	114	108	56-141	5	20	
cis-1,3-Dichloropropene	ug/L	ND	50	50	54.4	53.2	109	106	70-139	2	20	
Dibromochloromethane	ug/L	ND	50	50	52.8	52.1	106	104	50-150	1	20	
Dibromomethane	ug/L	ND	50	50	56.2	55.9	112	112	58-153	1	20	
Enflurane	ug/L	ND	50	50	56.9	51.9	114	104	63-126	9	20	
Ethylbenzene	ug/L	ND	50	50	52.9	51.0	106	102	57-135	4	20	
Haloether 229	ug/L	ND	50	50	74.1	68.2	148	136	56-127	8	20	M1
Haloether 406	ug/L	ND	50	50	69.8	63.9	140	128	68-128	9	20	M1
Haloether 421	ug/L	ND	50	50	73.8	69.1	148	138	74-120	7	20	M1
Haloether 427	ug/L	ND	50	50	60.7	58.5	121	117	78-120	4	20	M1
Haloether 428	ug/L	ND	50	50	66.3	63.7	133	127	74-125	4	20	M1
Haloether 508	ug/L	ND	50	50	66.6	59.0	133	118	28-156	12	20	
Haloether 528	ug/L	ND	50	50	64.6	61.7	129	123	45-142	5	20	
Halomar	ug/L	ND	50	50	61.6	58.9	123	118	67-123	4	20	
Isoflurane	ug/L	ND	50	50	58.4	52.1	117	104	45-140	11	20	
m&p-Xylene	ug/L	ND	100	100	59.1	55.2	59	55	56-136	7	20	M1
Methoxyflurane	ug/L	ND	50	50	69.2	67.0	138	134	75-119	3	20	M1
Methylene Chloride	ug/L	ND	50	50	57.6	54.7	115	109	45-166	5	20	
o-Xylene	ug/L	ND	50	50	51.1	49.5	102	99	57-133	3	20	
Styrene	ug/L	ND	50	50	ND	ND	0	0	58-144		20	M1
Tetrachloroethene	ug/L	ND	50	50	60.0	56.4	120	113	48-143	6	20	
Toluene	ug/L	ND	50	50	57.2	54.0	114	108	59-136	6	20	
Total Haloether	ug/L	ND			722	674				7		
trans-1,2-Dichloroethene	ug/L	ND	50	50	60.6	57.4	121	115	57-132	5	20	
trans-1,3-Dichloropropene	ug/L	ND	50	50	53.8	52.7	108	105	59-154	2	20	
Trichloroethene	ug/L	ND	50	50	59.4	54.2	119	108	58-140	9	20	
Trichlorofluoromethane	ug/L	ND	50	50	71.7	66.0	143	132	24-175	8	20	
Vinyl chloride	ug/L	ND	50	50	55.4	49.8	111	100	21-150	11	20	
4-Bromofluorobenzene (S)	%.						97	101	68-124			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 378239 378240

Parameter	Units	2060521003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dibromofluoromethane (S)	%.						102	101	72-126			
Toluene-d8 (S)	%.						100	101	79-119			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALIFIERS

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

LABORATORIES

PASI-N	Pace Analytical Services - New Orleans

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Fibers Public Supply Wells
Pace Project No.: 2060521

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2060521001	**TB-20170901**	EPA 5030B/8260	88376		
2060521002	**INF-20170901**	EPA 5030B/8260	88376		
2060521003	**EFF-20170901**	EPA 5030B/8260	88376		
2060521004	**EFF DUP-20170901**	EPA 5030B/8260	88376		

Pace Analytical

CHAIN-OF-CUSTO

The Chain-of-Custody is a LE ...itely.

WO# : 2060521

2060521

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	ARCADIS	Report To:	David Howard	Attention:	
Address:	410 North 44th St.	Copy To:		Company Name:	
	Phoenix, AZ 85008			Address:	
Email:	david.howard@arcadis-us.com	Purchase Order #:		Pace Quote:	
Phone:	NONE Fax:	Project Name:	Fibers	Pace Project Manager:	justin.stock@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	1037

Regulatory Agency	State / Location
	PR

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): 8260- VOCs + Halos	Trip BLANK	Residual Chlorine (Y/N)
1	TB- 20170901	WT	G			09/01/17	LAB		2				2						X	X	
2	INF - 20170901	WT	G			09/01/17	0926		3				3						X		
3	EFF - 20170901	WT	G			09/01/17	1000		3				3						X		
4	EFFDUP-20170901	WT	G			09/01/17	1000		3				3						X		
5	EFF MS - 20170901	WT	G			09/01/17	1000		3				3						X		
6	EFF MSD - 20170901	WT	G			09/01/17	1000		3				3						X		
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Andrew Colon / Arcadis	09/01/17	1332	[signature] / Pace	9-1-17	13:32
	[signature] / Pace	9/1/17	17:00	Fed Ex		
	Fed Ex	9/6/17	0815	[signature] - Pace	9/6/17	0815

SAMPLE CONDITIONS				
TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)	
1.0	Y	Y	Y	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Andrew Colon

SIGNATURE of SAMPLER: [signature] DATE Signed: 09/01/17

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Rec

WO# : 2060521

PM: CJM **Due Date: 09/20/17**

CLIENT: 20-CHEV-ARC

Projec

Courier: ☐ Pace Courier ☐ Hired Courier ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals intact:** ☑Yes ☐No

Therometer Used: ☐ Therm Fisher IR 5 ☐ Therm Fisher IR 6 ☑ Therm Fisher IR 7

Type of Ice: (Wet) Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 09-06-17 MS

Temp must be measured from Temperature blank when present

			Comments:
Temperature Blank Present"?	☐Yes ☐No	☑N/A	1
Chain of Custody Present:	☑Yes ☐No	☐N/A	2
Chain of Custody Complete:	☑Yes ☐No	☐N/A	3
Chain of Custody Relinquished:	☑Yes ☐No	☐N/A	4
Sampler Name & Signature on COC:	☑Yes ☐No	☐N/A	5
Samples Arrived within Hold Time:	☑Yes ☐No	☐N/A	6
Sufficient Volume:	☑Yes ☐No	☐N/A	7
Correct Containers Used:	☑Yes ☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes ☐No	☑N/A	9
Sample Labels match COC:	☑Yes ☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes ☐No	☐N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☐Yes ☐No	☑N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes ☐No	☑N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	☐Yes ☑No	☐N/A	14
Trip Blank Present:	☑Yes ☐No		15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Attachment 3
Sampling and Monitoring Field Form

Pace /EQLAB

ARCADIS Design & Consultancy for natural and built assets

Groundwater Extraction and Treatment System (GWETS) Sampling and Monitoring Field Form
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

Collection Date	Sample ID	Collection Time (Pace /EQLAB)	Sampler's Initials
09/01/17	TB-20170901	LAB/LAB	AAB
09/01/17	INF-20170901	0926/0926	A.C.
09/01/17	EFF-20170901	1000/1000	A.C.
09/01/17	EFF DUP-20170901	1000/1000	A.C
09/01/17	EFF MS - 20170901	1000/1000	A.C
09/01/17	EFF MSD - 20170901	1000/1000	A.C

GWETS Operational Data at Sample Collection

Extraction Wells

RW-2	94.6	gpm
RW-4	144.6	gpm
RW-5	69.8	gpm

Compound Treatment System

Influent Flow Rate (FIT-101)	304.5	gpm
Effluent Flow Rate (FIT-301)	375.4	gpm
Blower (FIT-201A)	2643	scfm
Influent Flow Pressure (PIT-101)	2.6	psi
Effluent Flow Pressure (PIT-301)	21.5	psi
pH (pHIT-201A)	8.4	

Notes:
gpm = gallons per minute
scfm = standard cubic feet per minute
psi = pounds per square inch